

**NATIONAL INSTITUTES OF HEALTH  
WARREN GRANT MAGNUSON CLINICAL CENTER  
NURSING DEPARTMENT**

**Standards of Practice: Care Of The Patient Receiving A Permanent Pacemaker**

**A. PRE-PROCEDURE**

**1. Assessment**

Assist in collecting pre-operative data, including:

- a. Vital signs
- b. Reason for pacemaker insertion
- c. Recent history of clinical signs and symptoms, such as:
  - 1.) decreased activity tolerance and fatigue
  - 2.) dizziness, light-headedness and syncope
  - 3.) slowed heart rate
- d. Patient and family knowledge about pacemaker insertion and pacemakers in general
- e. Patient and family emotional response to the need for a permanent pacemaker and to the impending surgical procedure
- f. Lab values that may effect procedure (e.g. Coags, CBC, electrolytes)
- g. Medication history that may effect procedure (e.g. Anti-coagulants)

**2. Interventions**

Assist with preoperative preparation, including:

- a. Ensure presence of completed consent in chart
- b. Ensure npo status except meds as ordered
- c. Instruct patient regarding the procedure
- d. Administer pre-op antibiotic per prescriber order
- e. Ensure patient has showered, washed hair, and gently cleansed pacemaker insertion site with hexachlorophene scrub sponge

**3. Documentation**

- a. Complete operating room checklist
- b. Document assessment and interventions as above in MIS or on an approved medical record form

## **B. POST-PROCEDURE**

### **a. Assessment**

- a. Obtain baseline data on the patient after his return from the operating or recovery room, including:
  - 1.) The type of pacemaker and leads inserted
  - 2.) Manufacturer's name
  - 3.) Pacemaker's programming: lower rate limit, upper rate limit, av interval, programmed mode of pacing, and rate response on/off
  - 4.) Ensure chest x-ray is taken per prescriber order
- b. Check the patient's heart rate and rhythm every 4 hours, including the following:
  - 1.) The heart rate dropping below the lower rate limit of the pacemaker
  - 2.) The heart rate exceeding the upper rate limit of the pacemaker
  - 3.) Arrhythmias
  - 4.) Appropriate or inappropriate sensing and capturing of the pacemaker

### **b. Interventions**

- a. Implement prescribed medical orders for patient monitoring and assessment of pacemaker insertion site, including:
  - 1.) Obtain post-insertion vital signs; monitor heart rate, and blood pressure q 15 mins x 4, q 30 mins x 2, q 4 hrs x 1, q 8 hrs, or more frequently as indicated by the patient's condition
  - 2.) Obtain a 12 lead ECG and maintain continuous ECG monitoring
  - 3.) Administer pain medications
  - 4.) Place arm sling on affected side and position arm next to body for 24 hours
  - 5.) Keep head of bed elevated at a 45 degree angle for 24 hours
  - 6.) Maintain bedrest with a bedside commode or bathroom privileges for 24 hours
  - 7.) Monitor insertion site for bleeding, swelling, erythema, exudate, ecchymosis, and integrity of the dressing when obtaining vital signs.
- b. Implement the following measures to prevent infection:
  - 1.) Check the patient's temperature q 8 hrs, or more frequently, as indicated by the patient's condition
  - 2.) Administer prophylactic antibiotics (usually IV)
  - 3.) Use sterile technique with any dressing changes
  - 4.) Assess pacemaker insertion site q 8 hrs for signs of infection.

- c. Prior to discharge, verify patient's understanding of:
  - 1.) Potential complications related to pacemaker function
  - 2.) Potential for infection related to pacemaker insertion
  - 3.) Signs and symptoms of infection
  - 4.) Pacemaker insertion site care
  - 5.) Activity instructions
  - 6.) Follow-up care requirements

- d. Prior to discharge, ensure patient is provided with:

- 1.) Wallet card that identifies type of pacemaker and manufacturer
- 2.) Information to obtain medic alert bracelet/necklace identification

### 3. **Documentation**

Document assessment and interventions as above in MIS or on an approved medical record form.

### **REFERENCES:**

1. Jackson, C. and Gerity, D. (2000). Pacemakers and Implantable Defibrillators. Cardiac Nursing. (Woods, S. Froelicheer, E. and Motzer, S. Eds) Philadelphia: Lippincott: p. 661 - 686.
2. Majorowicz, K. and Hayes-Christiansen, C. (1989). Pacemaker Insertion, Permanent. Cardiovascular Nursing. Springhouse: Springhouse Corporation: p. 203 - 211.
3. Purcell, J.A. and Burrows, S.G. (1985). A pacemaker primer. American Journal of Nursing, 85(5): p. 553 - 568.
4. Shaffer, R. (1999). Keeping pace with permanent pacemakers. Dimensions of Critical Care Nursing, 18(6): p. 2 - 8.
5. Torres, A. and Bernadette, W. (1997). The nuts and bolts of pacemakers: What nurses need to know. Rehabilitation Nursing, 22(4): p. 206 - 208.

### **EDUCATIONAL MATERIAL:**

1. Fletcher, B. and Purcell, J. (1996). You have a Pacemaker. Atlanta: Pritchett & Hull Associates, Inc.
2. 7 East Information Sheet "Follow-up Care for your Pacemaker".

Approved:

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